With the Author's Compliments

ADDRESS

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PATHOLOGICAL SOCIETY,

On SEPTEMBER 3rd, 1890,

ON

"HYPNOTISM, ITS NATURE & ITS CAUSE,"

BY

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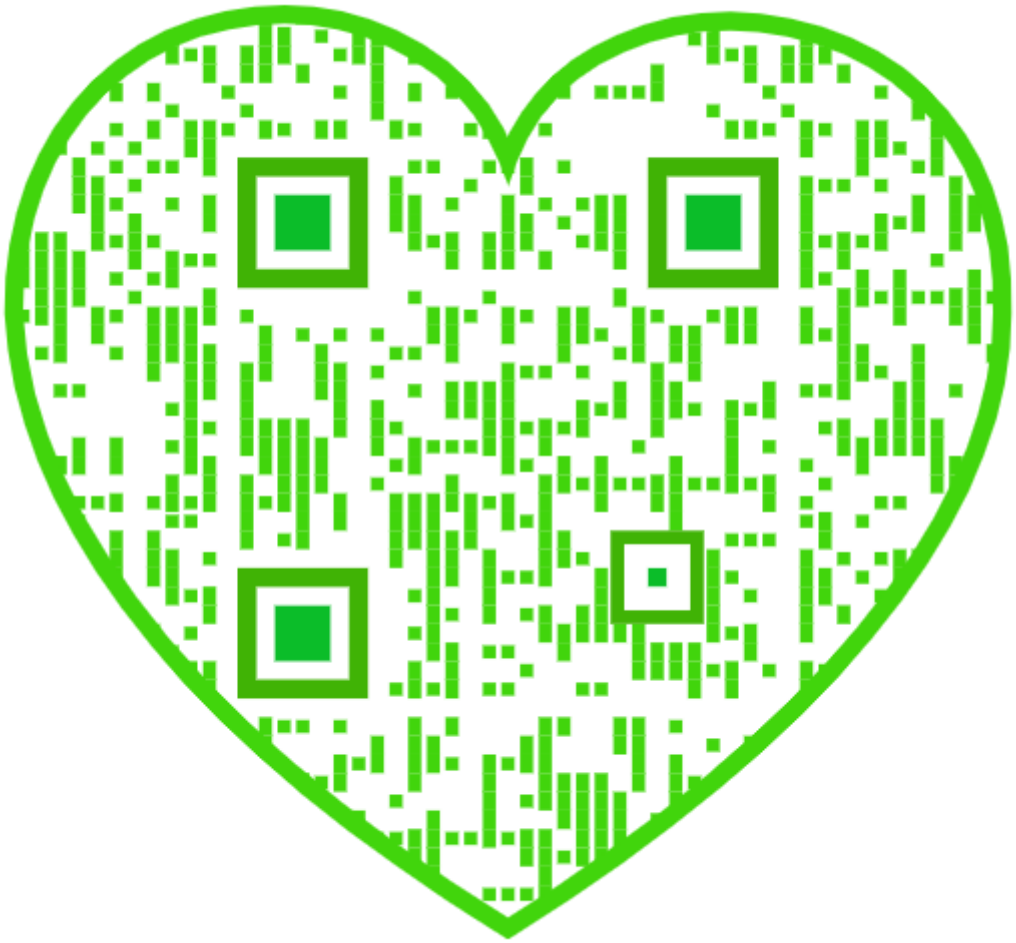

Reading Pathological Society.

ANNUAL ADDRESS, SEPTEMBER 3rd, 1890.

HYPNOTISM, ITS NATURE AND ITS CAUSE.

Gentlemen,

When I accepted the distinguished and honourable position of President of this Society for a second year, I little knew what was before me, and how totally unable I should be to attend after November the Monthly Meetings of the Session.

A severe attack of Influenza accompanied by Pneumonia, rendered it necessary that I should avoid exposure to the cold nights of the winter: then, just prior to two meetings I received sudden and urgent calls to pay a country visit. Upon two other occasions personal matters required my presence elsewhere.

For my great defections in the past I must ask your kind forgiveness, and for the remarks which I am about to make upon the nature and cause of Hypnotism, your equally kind and patient consideration.

Some present may, perhaps, think that after the articles on this subject which have appeared in popular form in the periodical literature of the last few months, and in a more professional aspect in recent medical literature, as well as the discussion at the last meeting of the British Medical Association; the topic has become threadbare; but my object will be

more to show what Hypnotism really is, more to explain its deeply seated origin and that of its phenomena, than to discuss its application in therapeutics or social life.

Hypnotism, as a somewhat old subject under a comparatively new name, has of late awakened considerable attention; and I venture to think that any endeavour to explain its phenomena will be of interest to the Medical profession, more especially if it tends to remove mystery, and to show how the phenomena are nothing more than manifestations of a very natural and universal force, directed and controlled by a differing, individual exercise of will.

The Hypnotic condition and its production open up a vast field for experimental investigation. My plan for this evening's address is to prove:—(I.) The physical nature of the force by which animal life is maintained. (II.) The physical nature of the action of the *will* of one individual upon the will of another. (III.) That a wise and practical recognition of these great truths must be of enormous value to the human race.

(I.) To prove the physical nature of the force by which animal life is maintained.

This has been with me a subject of research for more than 25 years; but, although I had published various papers in *The Lancet*, *The Medico-Chirurgical Review*, and elsewhere, the first decided advance was some experiments which I conducted upon the differences in the magnetic states of the arterial and venous blood. The results were published in the *Proceedings of the Royal Society for 1875*.

Unquestionably, the researches of Dr. Joule upon the mechanical equivalent of heat have been of great practical value in proving that in animals (in common with all other forms of matter) rise of temperature is in proportion to the molecular motion which is established under the circulation of the blood; but as there can be no doubt as to that circulation being dependent upon nerve energy, the great cause of motion may thus be ultimately traced to the differences of magnetic condition in the venous and arterial states of the blood.

If we consider the normal condition of the body, we find the blood, as proved by Dr. GAMGEE, possessing in its corpuscular elements a highly magnetic character; whilst its fluid portion is diamagnetic. This blood is distributed throughout the body in varying proportions in different tissues as regards weight. Thus in the skin we have the smallest relative quantity as to weight, with gradual increase in bones, muscles, nerve tissues, kidneys, spleen, liver.

Inasmuch as magnetic energy necessarily varies with the mass of matter containing it, so the magnetic condition of various parts of the body must differ in proportion to the blood supply more especially.

We find that the tissues vary as regards structure, density, chemical composition and conducting power for magnetism, as well as in their respective natural currents; those of muscle being more evidently powerful than those of nerve. We also notice a marked change in structure and general physical condition; nerve shows no demonstrable chemical change, or alteration of temperature, or of structural appearance; muscle, on the contrary, when excited and active, gives off acid, and itself gives acid reaction; temperature rises, and contraction and extension can be clearly seen.

Elective affinity also varies in different tissues; thus we have the deposition of calcareous matter in one part giving rise to osseous tissue, whilst nerve tissue seems to have a special selective power as to arsenic.

These are but instances of what is well understood in connection with the analysis of the vital organs of the body.

Again, my own experiments* showed that beyond the different magnetic conditions of corpuscles and plasma of the blood, the very same corpuscles differed as to magnetic energy according as they were of arterial or venous character; arterial corpuscles being more magnetic than venous corpuscles.

If the magnetic condition of the blood acting on nerve cells varies thus, must we not conclude that the condition of the nerve cells themselves correspondingly varies? We have also to remember that the magnetic force of the earth as a natural

* *Proceedings of Royal Society, 1875.*

magnet, is constantly acting on the body in all its conditions, and regular, or irregular variations.

The fact is these lines of magnetic force as they pass away from the crust of the earth provide a magnetic atmosphere; which, by the polarising influence it exerts upon all forms of matter even to the most minute condition in the form of atoms, must be productive of a series of phenomena, the character and extent of which must be regulated by the nature of the matter and by the varying extent of the external influences.

We have thus a normal condition of increased variation as to influence and susceptibility, inseparable from the atomic structure of matter; and unquestionably we have at times most marked and decided causes of influence resulting from the similarity or dissimilarity, the excess or deficiency of magnetic energy.

Each form of matter when free to move acquires, under impressed force, a definite description of motion or vibration.

The contractions of the heart are intermittent; they communicate the same description of motion to the blood, and thence to the tissues, and to the lines of terrestrial magnetic energy by which they are polarised; and so the vibratory motion natural to magnetic force is not only maintained, but increased by the mechanical motion as well as by the magnetic energy of the blood.

Thus, in my view, *animal* life is the final resultant of physical forces—the term physical being here taken to include chemical—which are the direct outcome of the energy which is inherent in all matter, one form of which—magnetism—by the polarising influence it exerts upon matter, may be said to underlie every disturbance or variation of intensity either from changes in the body itself, or from vibrations which take their origin in some external source, and are then impressed upon the body in general, or some portion of it in particular.*

* I venture to think that by thus tracing the existence of animal life to the influence which atoms of matter exert upon *impressed* force, the strongest evidence is given not only of the wisdom of the Creator in the formation of the atoms, but of the constant exercise of His power; for it is evident that though each form of life is due to a definite combination of a variety of atoms; yet the combinations would be ineffectual in the production of results, were it not for the impressed force; which force must take its origin in something outside all matter. We can therefore only regard the atoms, the combination, and the force as expressions of the *Will* of the Creator.

We know that two at least of the organs of sense are constructed for the purpose of receiving vibrations, viz., the eye and the ear; and that the retina is specially adapted to detect vibrations of light, for light may be perceived in the closed eye when subjected to an electric current, or even to a blow. Again, these sensations are special evidences of the sensitiveness of certain parts of the human mechanism to external impressions; and all the senses are most intimately associated with some changes in the molecular, probably in the atomic condition of matter.

If eye and ear thus respond to influence from without, may there not be some *special* arrangement yet to be recognised, upon which what we call *Will* may play or act with results somewhat analogous to light and sound; not however confined to things of so-called "sense"?

(II.) The physical nature of the action of the *Will* of one individual upon the *Will* of another.

Every explanation of the phenomena of Hypnotism refers them to action upon, or of, the nervous system. The chief points for discussion are as to the nature of the action whether reflex or direct, and as to the centres whence either catalepsy or susceptibility to suggestion arises.

We naturally ask how fear is produced in one person by the mere appearance of another? How a feeling of confidence or pleasure is experienced when another person appears or is present? In such cases an old experience may be recalled, memory may be exercised. Thus, or in a somewhat similar way, may some of the results of personal influence be fairly explained.

But in the case of catalepsy, no such explanation is valid. Memory cannot act, for no experience of such phenomena has ever fallen to the lot of many a hypnotised person. And, if we regard the rigid condition as akin to what is sometimes produced by a dreadful sight, a position of extreme danger, or of aught else, yet no such paralysing circumstances attend the presence of a hypnotiser, or any of his manifestations.

Must not the cause be more physical than psychical? If so, what force more subtle or all-pervading than that of Magne-

tism? producing a polarity through the directive influence of the material atoms, and, for the time being, inducing a state of things in which the natural forces of the hypnotised are brought into subjection or accord with the natural forces of the hypnotiser? If this is likely, have we not a possible, nay more, a probable cause of the influence of the mind or will of one person upon that of another.

The precise manner in which hypnotic phenomena, or phenomena which can be produced by suggestion, as well as by what may be termed more precisely impressed force, will now I believe be evident; for it will be perceived that not a word can be spoken, not a glance of the eye of one person can fall upon the eyes of another without some relative effect; nay, we may go further still and state that the hands of the hypnotiser cannot be moved over the body of the hypnotised without a resultant impression through the medium of the magnetic atmosphere in which both exist.

Hence Hypnotism, so called, is only an exaggerated and artificial mode of using the natural powers of the WILL in relation to a particular degree of sensitiveness (or special power of perception) with phenomenal results.

This will account for what is sometimes met with in Hypnotic practice, viz., that the person who aims at hypnotising becomes himself hypnotised in the very endeavour.

Doubtless there exist a large number of the thinking portion of the community, non-medical as well as medical, who are adverse to anything which pertains to Animal Magnetism. The bare mention of the phrase has been sufficient to condemn any investigations tending in that direction. Let me ask if this is a scientific method of dealing with any subject?

Again, I would put the question, Is it possible that we can arrive at the truth if, in the absence of any real knowledge, we determine to know nothing of one side of an argument: more especially if the side we ignore, apart from prejudice, appears to be full of promise? Surely every honest man, scientist or non-scientist, would immediately repudiate such a method of dealing with obvious phenomena so marked, and pregnant with results, and say—let me have the truth under any circumstances.

Let me now briefly recapitulate some important points as worthy of careful consideration.

(i.) The living body of the hypnotised, as well as of the hypnotiser, is at all times pervaded by magnetic force; a force which polarises every atom of matter in the tissues.

(ii.) These bodies are not only pervaded by the force, but they exist in a magnetic atmosphere, which is common to both individuals; which envelopes them much more completely than the gaseous atmosphere, and which appears to be quite as essential to their existence.

(iii.) All the mental as well as the bodily powers and phenomena are especially associated with changes in the molecular, and therefore in the magnetic states of matter; in fact, no molecular action can occur without change of magnetic polarity.

(iv.) The phenomena of hypnotism are effected when one person has permitted his will to be thrown into a peculiar description of sleep or abeyance.

(v.) During the continuance of this sleep an expression of the will of another person awake—the hypnotiser—commands the implicit obedience of the person asleep—the hypnotised.

(vi.) In each individual every action of a muscle in the utterance of a word, or in the movement of a part of the body, as well as every mental conception, is attended with a certain amount of vibratory motion, in proportion to the work involved in the action, the utterance, or the thought.

(vii.) It is well known that the sensations of sight and hearing are, in the normal condition, communicated to the sensorium through the influence of vibrations affecting the optic or the auditory nerves. Similarly in Hypnotism it is quite certain that all vibratory motion communicated to the magnetic atmosphere and thence to the body is in proportion to the force of the impression and to the character and susceptibility of the impressed nerve.

By the experiments of Du Bois Reymond and a host of others who have investigated the electrical condition of muscles and nerves during the active and quiescent states, it is proved that the polarity is reversed as the state of inactivity gives

place to activity, and *vice versa;* and I wish to call special attention to these experiments as they very strongly confirm the principle involved in the theory I am laying before you.

It is therefore evident:

(i.) That during the hypnotic state, when the muscles of the hypnotised are kept perfectly rigid, it may be for an indefinite time, by the will of the hypnotiser, there is a state of polarity OPPOSITE to that which existed when they were at rest, *i.e.*, before the hypnotising.

(ii.) That the extent of polar changes varies with every expression of the Will, *i.e.*, with each action of a nerve or muscle: and this latter follows from the laws of magnetism.

I therefore submit that the phenomena of Hypnotism are the direct outcome of Animal Magnetism, *i.e.*, of Terrestrial Magnetism affecting living animal tissues.

Before bringing my remarks to a conclusion, let me show how, by reference to these most natural all-pervading causes and principles of action, the leading phenomena of Hypnotism may be explained; these can be summarised as

(i.) Abnormal sleep with a certain amount of unconsciousness;

(ii.) Anasthæsia;

(iii.) Increased reflex sensitiveness, shown in more or less complete subjectivity to the *Will* of another, whether to imitate, or to yield to *suggestion;*

(iv.) Spasm culminating in Catalepsy.

Now all these phenomena are signs of an unusual condition of tissue, which is brought about by some distinct cause proceeding from the hypnotiser, whose magnetic force, as compared with that of the hypnotised differs either in kind, or in quantity, so producing a change in the polarity of the ultimate elements of the tissues. Hence the *increased* sensitiveness whereby the usual expression of will through some act, or word becomes unnecessary; or, the *lessened* sensitiveness, whereby ordinary or even extraordinary stimuli such as pricks, cuts, blows, etc., are wholly unfelt. In the cases of complete loss of individual power to do, or not to do, the naturally separate nerve tissue of the hypnotised becomes as

much affected by mere suggestion as if the *two* systems of hypnotised and hypnotiser formed but *one*, so that the will of the one acts by and through the organisation or body of the other.

GENTLEMEN,

In conclusion, in accordance with the plan I laid down at the commencement of this paper, I venture to hope that I have made clear to you—

(I.) The physical nature of the force by which animal life is maintained.

(II.) The physical nature of the action of the Will of one person upon the Will of another.

In substantiation of my third point, viz., (III.) "that a wise and practical recognition of these great truths must be of enormous benefit to the human race," I am sure I need make no further comments, for I am convinced that when the importance of the points which we have been considering is fully realised, a very large proportion of the mystery which has attached to the process by which the phenomena of animal life are evolved will be cleared away, and the perfection of the mechanism established.

I have said perfection of the mechanism, for I can find no other words which are at all adequate to express the principle involved. In proof of this I would direct attention to the well known fact that the magnetic force is not really a polar force in itself, but that the polar manifestations are the direct outcome of the mode in which each form of matter transmits force, viz., through the line of the greatest density, which is consequently the axis of magnetic force. Now as each form of matter, when free to move, tends to place this line of greatest density in the direction of the force acting upon it—and the principle applies to the ultimate atoms—the perfection of the mechanism is shown:—

(i.) In the fabrication of the atoms adapted to the purpose they have to fulfil.

(ii.) In the construction of the healthy cells of each particular tissue from a common pabulum, by each tissue selecting its required elements. The selective influence of the

atoms in the construction of a cell is doubtless well marked; for, by the character and particular arrangement of these atoms, the special properties of the cell are acquired. These are as essential to the evolution of the characteristic phenomena of each cell, as the proper action of the various organs of the body is essential to health and vigour. As confirmatory of this we have the morbid phenomena of unhealthy cells, and the inability of venous blood corpuscles to maintain life.

Surely, when we recognise these great principles, and that they involve *all* action of the mind and will, as well as the health of the body in general, we, as custodians of the public health, are especially called upon to exercise our wills in such a manner that all those with whom we are associated, in any relation of life, may benefit by a *practical* recognition of the truth.